



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,150	06/25/2001	Christopher S Winter	36-1448	1217

7590 11/06/2003

Nixon & Vanderhye
1100 North Glebe Road 8th Floor
Arlington, VA 22201-4714

EXAMINER

BLACK, LINH

ART UNIT	PAPER NUMBER
----------	--------------

2177

DATE MAILED: 11/06/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/869,150

Applicant(s)

WINTER ET AL.

Examiner

LINH BLACK

Art Unit

2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract **not exceed 150 words in length** since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because according to the MPEP ¶ 6.02(j) – Abstract of the Disclosure: "A brief narrative of the disclosure as a whole **in a single paragraph** of 150 words or less commencing on a

Art Unit: 2177

separate sheet following the claims”. Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities: there are incorrectly spelled terms in the specification such as “organisation” – page 1, line 20; “normalised” – page 3, lines 23 and 30; “visualisation” – page 4, line 11; “analysed” – page 5, line 11. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant’s cooperation is requested in correcting any errors of which applicant may become aware in the specification. Appropriate correction is required.

Drawings

4. The drawings are objected to under 37 CFR 1.84(o) because they fail to show necessary textual labels of features in Figs. 1, 2, 4, 5, 6, as described in the specification. For example, placing the label, “server” with element 152, “data link” with element 162, “first processor” with element 180, or “read-only database” with element 172, of fig. 1, or “read-only database or call database” with element 166, or “main network connection” with element 164, or “client terminal” with element 156 of fig. 2, etc... would give viewers a clear understanding of the drawing. A descriptive textual label for each numbered element in these figures would be needed to fully and better understand these

figures without any substantial analysis of the detailed specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

5. Figures 1, 2, and 4 are also objected to under 37 CFR 1.84(p)(4) because according to the 37 CFR 1.84(p)(4), "The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never be used to designate different parts." However, according to fig. 1 – element 158 is designated to different physical data links. Element 156 is designated to different client terminals. Please correct the numbers of the mentioned elements. Different data links for example in fig. 1 can be assigned different element numbers as 158a, 158b, 158c; or different client terminals in figure 2 can be assigned different element numbers as 156a, 156b, 156c etc...A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, in **claim 10**, the "step of displaying a list of available sort parameters on the display means and select a set of sort parameters from the list" must be shown or the feature(s) canceled from the claim(s). Also for **claim 16**, "the

step of pre-formatting the data files to be sorted". No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

7. Claims 3-5 are objected to because of the following informalities: there are incorrectly spelled terms in the above claims such as "normalised".

Applicants' cooperation is requested in correcting any errors of which applicant may become aware in all of the claims' limitations. Appropriate correction is required.

8. Claim 7 is objected to because of the following informalities: an adjective clause "that or which" is needed to help define the meaning of claim 7. For example, "wherein the display means, which comprises an array of pixels and the movement vectors, determines which pixels respective elements are moved to in each step".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2177

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation "the step of pre-formatting the data files" is not clear because the limitation is not clearly defined in the specification. However, according to the specification page 5, lines 13-15, applicants state: "the method further comprises the step of pre-formatting the data files to be sorted. This provides for a faster method and further optimizes the above mentioned advantages." The statement above does not disclose what is the step of pre-formatting the data files.

On page 8, last paragraph, applicants state: «In the first step 10 in the flow chart, the data held on the call record database is restructured into a series of much smaller customer files." Claim 16's limitation is about "the step of pre-formatting data files" while the statement on page 8, last paragraph, states the restructuring of data in the database to smaller files. Examiner is unclear about how this last paragraph in the specification, page 8, would support the claim 16's limitation. No where else in the specification applicants disclosed "the step of pre-formatting the data files" to support the claim 16's limitation. Therefore, the meets and bounds of the invention cannot be ascertained.

Information Disclosure Statement

Art Unit: 2177

9. Examiner acknowledges that based on the International Search Report of the International Application No. PCT/GB 00/00046, applicants did send in a number of non-patent documents that were used as relevant prior art for the Search Report. However, the Information Disclosure Statement Form is not filed or submitted by the applicants to the Office. Examiner considered and cited these non-patent documents on Form 892 – Paper number 4.

However, applicants are notified that it is not proper just to provide copies of prior art without providing a separate paper for the Information Disclosure Statement. 37 CFR 1.98(b)(d) require a list of all patents, publications, or other information submitted for consideration by the Office, and applicants must provide the list in a separate paper, the Information Disclosure Statement.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2177

10. Claims 1-13, 15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hemmje M. et al. "LyberWorld – A Visualization User Interface Supporting Fulltext Retrieval", July 3, 1994, pp. 249-259, XP00475325.

11. Hemmje et al. anticipated the independent claim 1 by the following:

"a method of selecting information stored in a data storage system" – the abstract; page 256 – lines 27-41.

"defining at least one sort statement" – p. 252, lines 27-33; p. 256, lines 3-14 and lines 27-41. Retrieved documents are displayed in different levels, for example, users can decide to follow the search result by selecting an element/document to become the current item and requests to unfold its term sublevel – line 6. In other words, a sort statement would be performed when a user selects an item, starts clustering activities, increases terms' attractions, or reduces the document density in order to choose the most relevance documents to the search terms.

Elements/documents are sorted and displayed in relevant positions to the searched term nodes to reflect their relevancies on the display – page 253, lines 28-30. In addition, NavigationCones implement navigations by unfolding alternating tree levels of term and document view – page 252, lines 28-32.

Thus, terms and documents are sorted into tree levels, which would be displayed to users based on users' navigations.

Art Unit: 2177

“determining the value of a relevance parameter for each data file in the stored information in respect of the or each sort statement” – p. 252, lines 27-33, especially lines 32-33 - “These relevance values are provided by INQUERY’s ranking mechanisms”; p. 253, last paragraph.

“defining at least one sort statement site on a display means, wherein a sort statement site represents a respective sort statement” – page 256, lines 27-41; page 253, fig. 6: the term nodes u, q, r, s, t, p, etc...corresponds to the sort statement sites; page 255, fig. 15 and lines 13-18 (The interactive manipulation ...enforced term remain constant between themselves).

In the specification, pages 4-5, applicants state that “the step of defining the or each sort statement sites comprises the step of selecting a respective position on the display means which corresponds to a point on the circumference of a circle.” However, Hemmje et al. disclose, “the user is provided with an interactive relevance feedback mechanism. He can express a higher/lower interest in a specific term and the related document cluster by in/decreasing the term symbol’s attraction towards its documents” – page 255, lines 10-12; Fig. 15.

“representing the data files as elements on the display means” – page 256, lines 31-41; page 253, fig. 6: the document nodes correspond to the elements; page 259, screen 4.

Art Unit: 2177

“effecting movement of at least one element from an initial position on the display means towards one or more sort statement sites, the movement of respective elements being determined in accordance with the relevance parameter for their associated data files in respect of each statement so that differences in the data files cause the elements to move relative to one another, thereby to provide a visual indication of the data files being sorted” – page 253, figs. 6-8; page 256, lines 31-41; page 255, figs. 13-15: elements are sorted after users increase the attraction factor of the term solar and the new-sorted relevant positions of elements g, d, c changed, they are moved closer to the term node solar because of their relevancies. Also, based on their new positions, the document/element c (fig. 15) is the most relevant document to the term node solar.

“selecting at least one data file according to the position on the display means of its respective element” – page 256, lines 38-41.

12. The independent claim 17 relates to a system corresponding to the method of claim 1. However, Hemmje discloses a method as well as the system of using the method set forth in the rejection of claim 1 above – page 249, second paragraph and Fulltext Retrieval System INQUIRY: last line; page 252, lines 27-38; page 255, last paragraph; page 256, second last paragraph; page 257, lines 4-21; display means: page 259.

13. Hemmje et al. anticipated claim 2 by the following:

“the step of accessing data in the selected data file” – page 256, lines 38-41.

14. Hemmje et al. anticipated claim 3 by the following:

“the step of determining the value of the relevance parameter for each data file, for each sort statement, comprises the step of identifying the most relevant data file for each sort statement, assigning it a maximum relevance parameter value and determining respective normalized values for the rest of the data files based on said maximum relevance parameter value.” – page 255, figs. 13-16, lines 2-24 (in fig. 13, the most relevant data file x is identified – line 4; data file x has the maximum relevance parameter value, it defines the sphere radius. Based on this normalized value, all other relevant data files' normalized values are also determined and “a cluster of documents with positions very close to the sphere's center is displayed. This situation has occurred because the displayed distance values are high, i.e. the relevance of the cluster is low compared to the most relevant document x” – lines 1-4; also page 256, lines 27-41.

15. Hemmje et al. anticipated claim 4 by the following:

“the step of moving the elements comprises the step of determining a movement vector for each element based on the magnitude of the normalized values of the respective data file and the direction of relevant sort statement sites relative to the element” – page 253, figs. 6-8; page 254, lines 4-7 and lines 26-28 (The Relevance Sphere ... satisfy the Boolean query predicate (A & B & C)); page 255, figs. 13-16 and lines 1-12; page 256, lines 31-36 (Note: sort statement sites

correspond to term nodes and elements correspond to document nodes/data files).

16. Hemmje et al. anticipated claim 5 by the following:

“wherein the step of determining a movement vector for each element comprises the step of determining a component movement vector for the element in respect of each sort statement based on the magnitude of the respective normalized value of the respective data file for the sort statement and the direction of the respective sort statement site to that element, and **summing** the component movement vectors” - p. 253, lines 11-12 teaches “The position of each document symbol encodes the sum of all attractions, i.e. the relevance of the document towards each term of the query”; page 254, lines 4-8 suggests attraction/movement vectors are defined between a document and its paths in fig. 7, and the displaying of the generation of a document’s position in the sphere with respect to the whole search path’s vectors and the sphere’s center as an anchor point; page 255, figs. 13-16 and lines 1-12; page 256, lines 31-36.

17. Hemmje et al. anticipated claim 6 by the following:

“wherein the elements move in steps and a movement vector is determined for each step” – page 253, figs. 6-8; page 254, lines 4-7 (where attraction vectors are defined between a document and its paths in fig. 7, and the displaying of the generation of a document’s position in the sphere with respect to the whole

Art Unit: 2177

search path's vectors and the sphere's center as an anchor point); page 256, lines 29-36.

In the specification, page 14, applicants suggest "As can best be seen with reference to Figure 6, when the elements are moved in step 26 individual elements move relative to one another. The position of the elements in Figure 6 represents say one hundred movement steps....Element 114 thus moves towards the sort statement site at 108 at a rate of 25% of the predetermined number of pixels per step." However, "per step" that each relevant element/document moves to its new position is dependent on movement/attraction vector(s) that is/are determined by the number of item node(s).

According to Hemmje et al., in fig. 15, as a user increases the attraction factor of the term node: solar, documents/elements' positions in the sphere with respect to the whole search path's vectors are generated. The movement/attraction vector for each element is determined. Thus, compare to fig. 14, documents g, d, and c in fig. 15 are moved closer to the term node: solar because of the higher degrees of these documents' relevancies to the term solar.

18. Hemmje et al. anticipated claim 7 by the following:

"display means": page 259. A computer monitor display is inherently comprised of pixels. Hence, elements/documents that are relevant to each search statement of item nodes are moved to new relevant positions according to Hemmje's teaching – page 255, figs. 13-16, they are essentially moved in pixels.

19. Hemmje et al. anticipated claim 8 by the following:

“the step of applying scaling factors to the respective movement vectors according to the respective positions of the elements on the display means” – page 255, lines 19-24 and fig. 16.

By applying the scaling factor, and based on the elements' positions on the RelevanceSphere, the lower relevance elements are determined. Thus, elements e, b, and d in fig. 16 in the inner sphere can be extracted from the original outer sphere.

20. Hemmje et al. anticipated claim 9 by the following:

“the step of applying scaling factors comprises the step of selecting a scaling factor area distribution” - page 255, lines 19-24 and fig. 16.

21. Hemmje et al. anticipated claim 10 by the following:

“the step of defining the or each sort statement comprises the step of displaying a list of available sort parameters on the display means and selecting a set of sort parameters from the list.” - page 252, lines 27-33; p. 256, lines 3-14 and lines 27-41.

Applicants do not show how a list is displayed on the figures (see drawings objection for claim 10, page 2 above. However, Hemmje et al. disclose that users can select items nodes of interest, and then documents will be sorted and displayed in different levels. For example, users can decide to

Art Unit: 2177

follow the search result by selecting an element/document to become the current item and requests to unfold its term sublevel – page 256, line 6.

NavigationCones implement navigations by unfolding alternating tree levels of term and document view – page 252, lines 28-32. Thus, terms and documents are sorted into tree levels, which would be displayed to users based on users' navigations. In other words, a sort statement would be performed when a user selects an item, starts clustering activities, increases terms' attractions, or reduces the document density in order to choose the most relevance documents to the search terms. Elements/documents are sorted and displayed in relevant positions to the searched term nodes to reflect their relevancies on the display – page 253, lines 28-30. Thus, items or elements on the display that are available for users to select are basically a list of sort parameters where users would select in order to search or define a sort statement as stated by the applicants.

22. Hemmje et al. anticipated claim 11 by the following:

“the step of defining the or each sort statement site comprises the step of selecting a respective position on the display means which correspond to a point on the circumference of a circle” – page 255, fig. 15 and lines 10-12; page 256, lines 31-41. According to fig. 15, an user selects the term node: solar to increase the term node's attraction, documents' positions in the sphere with respect to the whole search path's vectors are generated.

Art Unit: 2177

23. Hemmje et al. anticipated claim 12 by the following:

“the initial position of the elements is defined at the center of the circle” – page 256, lines 27-28. (The system transfers the retrieved documents into the sphere center until a search is conducted, then relevant documents/elements/data files will be repositioned to their new positions which would show the relevancies of those documents to the search term nodes.)

24. Hemmje et al. anticipated claim 13 by the following:

“wherein each element moves from its initial position towards a site which represents the most relevant sort statement for the respective data file” – page 255, fig. 16; page 256, lines 31-36.

25. Hemmje et al. anticipated claim 15 by the following:

“the step of pre-selecting at least one sub-class of data files to be sorted” – page 251, third paragraph; page 252, lines 9-10 and lines 27-39; page 256, lines 3-14 and 27-41.

In the specification, page 9, first paragraph, applicants state, “Once the data has been restructured, the user is asked to define a data filter for reducing the amount of data to be processed. In step 12 the user is presented with a menu of available options on the display means. The options relate to the fields in the customer schedule of the call database. This step enables sub-classes of customers to be selected. For example, if the user is only interested in accessing data relating to customers in a certain postal district the filter is defined according

Art Unit: 2177

to the postal district of interest. At this state the user can select as many sub-classes as desired. Once the filter has been defined the appropriate customer files are selected in step 14.” However, the data has been restructured according to page 8, last paragraph is because searches are conducted on customers who made calls to certain destination or user ISDN connection. Applicants’ filter is defined based users’ interest (as underlined above).

Hemmje et al. disclose on page 256, lines 2-14 that based on the initial search term “heat”, users can further select its sublevel term to continue the search in which documents/data files in this subset would be sorted and moved to new their positions which reflect their relevancies to the new sublevel search term.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Art Unit: 2177

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

26. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hemmje M. et al. "LyberWorld – A Visualization User Interface Supporting Fulltext Retrieval", July 3, 1994, pp. 249-259, XP00475325.

Hemmje et al. disclose the invention as set forth in the 102-rejection above, but does not disclose the claimed "storing of selected data files." However, it would have been obvious to a person having ordinary skill in the art to store selected data files for later use because this adds to the convenience of using the system. Without the storage of the selected data files the results of the search would be lost from session to session, thus resulting in lost time.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINH BLACK whose telephone number is 703-305-0317. The examiner can normally be reached on Monday-Thursday from 8am - 5pm.

Art Unit: 2177

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN BREENE can be reached on 703-305-9790. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306, for Before Final communications: 703-746-7239, and for After Final communications: 703-746-7238.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-746-7240.



LINH BLACK
Patent Examiner
Art Unit 2177